

SUCTION LINE HEAT EXCHANGER FOR CO₂ COOLING SYSTEM

ABSTRACT OF THE DISCLOSURE

5 A heat exchanger including a suction line for gaseous or two phase refrigerant output from an evaporator and a capillary tube carrying cooled refrigerant to the evaporator. The suction line includes first and second substantially parallel straight cylindrical portions connected in series, with first and second portions of the capillary tube in series and helically wound around the suction line second and first portions, respectively. A valve for bypassing the capillary tube is responsive to a selected pressure differential between the capillary tube inlet and outlet. A U-shaped portion or accumulator connect the suction line first and second portions. An accumulator alternately is between the evaporator and the suction line portion wound by the capillary tube, with a phase separation chamber connected to an accumulator by a vertical pipe. The 10 accumulator includes a discharge opening to return the oil to the system.

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